

Claims

1. A ceramic honeycomb filter comprising a plurality of cells functioning as a fluid passage and surrounded by ceramic porous partition walls, the predetermined cells being plugged at one opening end of the each cell, the remaining cells being plugged at the other opening end of the each cell, the partition walls having a catalyst loaded thereon,
wherein a value obtained by dividing the cube of a porosity (%) in the partition walls having the catalyst (the porosity is a proportion of a volume of total pores contained in the partition walls, to a total volume of the partition walls including the total pores) by a mean diameter (μm) of all pores, is 0.8×10^4 or less, and a porosity (%) of pores of 100 μm or above in diameter in the partition walls (the porosity is a proportion of a volume of the pores of 100 μm or above in diameter, to the total volume of the partition walls including the total pores) is 5% or less.
2. A ceramic honeycomb filter according to Claim 1, wherein the porosity (%) of pores of 100 μm or above in diameter in the partition walls is 4% or less.
3. A ceramic honeycomb filter according to Claim 1, wherein the value obtained by dividing the cube of the porosity (%) in the partition walls having the catalyst by the mean diameter (μm) of all pores is 0.65×10^4 or less and the porosity (%) of pores of 100 μm or above in diameter in the partition walls is 4% or less.
4. A ceramic honeycomb filter according to any of Claims 1 to 3, wherein a partition wall thickness is 15 mil or less and a cell density is 200 cells/in.² or more.
5. A ceramic honeycomb filter according to any of Claims 1

to 4, wherein the partition walls are composed mainly of at least one compound selected from the group consisting of cordierite, silicon carbide, silicon nitride, alumina, mullite, aluminum titanate, titania and zirconia.